

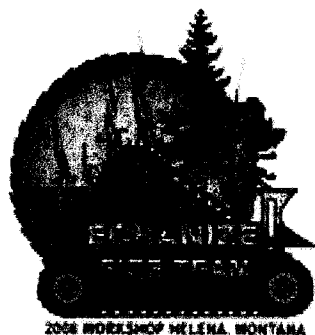
Jacob Ware, Concept Photography

By Val Jaffe

On a windy April day in the Northern Rockies, twenty machines with operators, lowboys, and support crew assembled to demonstrate the mechanical might of logging sides for fire suppression and rehab. Part of the first national weeklong inter-agency dozer boss training, the in-woods demo included daytime and night shifts for hands-on experience with mechanized task forces. Good practice for this year's fire season.

"Overhead must recognize the potential for more mechanized use," says George Neils, Fisher River Fire and Rescue, Montana, "especially as safety of human resources will become much more problematic with bigger fires and more WUI (Wildland Urban Interface)."

Dozers were only one of ten different equipment types that contractors brought to the event held on Montana State Land. Trainees learned to conduct equipment inspections, scout firelines, and work directly with operators. They executed minimal impact suppression tactics (MIST) and managed pruning operations for ladder fuel reduction and hazard tree felling.



Two task forces of complementary machines, configured specifically for the terrain, built firelines in two different forest fuel types. The firelines will be used for broadcast burning this Fall, and the wood harvested as a product of the demo will be sold, with the proceeds going to the state's public school trust fund.

Agile operation of the "dozervator" (Kobelco ED 190 excavator with shovel and thumb) was applied to rehabilitate firelines, while a carrier-mounted mulcher (Gyro-Track 25XP) left a rehab blanket of burn-resistant wood chips in its wake. Feller bunchers, harvesters, forwarders, skidders, skidgines, softtrack skidgines, super-skidgines, boom and carrier-mounted mulchers, and even a converted military tank vehicle were in on the action. Each one is catalogued in the Mechanized Equipment for Fire and Fuels Operations, made available at the demo and now online.

"More line officers and resource advisors should go to this workshop. This class is very progressive; looking to the future of equipment on the fireline and showed how we can do better work with less impact. What I learned will make me more efficient. The instructors were

top-notch!" Matt Weakland, BLM, dozer boss trainee.

Capable operators in well-outfitted machines showed the trainees, agency officers, and even a few Montana legislators, how safety and cost-savings are possible with mechanized fire teams. Everyone learned common equipment safety terms like FOPS, ROPS, and OPS.

One trainee noted it "was remarkable to see the new diversity of equipment."

Mechanized task forces, modeled after logging sides, offer more options to fire teams for direct and indirect fire suppression, with less impact than imagined.

This year, count on the growing cadre of equipment bosses to document successful strategies and tactics, and improve from lessons learned. For starters, they'll take back the night, when wildfire is generally the easiest to control. The workshop demo was a unique display of assembled machinery with experienced operators ready for fire operations contracts; one worth repeating.

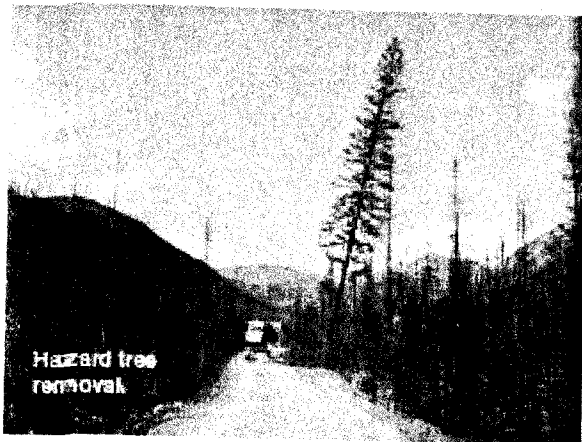
Look for the next mechanized fire operations demo in Oregon, 2009. Loggers need this work alternative, while fire operations need timber industry contractors for all phases of forest fuels reduction. From pre-positioning equipment in fire-prone areas for initial attack, to fire suppression and burn rehabilitation, fire managers and taxpayers alike benefit from mechanized alternatives. If only the agencies can improve the ordering system to capture the efficiency of a logging side.

<http://www.nationalfiretraining.net/misc/meffo.pdf>

Mechanized Fire Team logo by Casey Steinke, Top Sign & Graphics

Fire Management – Organized Chaos

By Val Jaffe



Wildland fire management can be organized chaos. But more efficiency will be gained as we find common ground.

Understanding Logging Equipment

"You can't move a 3,000 gallon nurse tank up that road to the fire. The curves are too tight," said the agency fire boss, seeing water tanks affixed to a stinger-steered log truck. "But I used the same truck to haul logs out on that road last year," replies the logger.

Elementary lessons in road alignments and vehicle turning radiuses are frustrating at the staging area. Fire personnel, from Incident Commanders to dispatchers, are often unfamiliar with multifunctional forestry machines. Pre-season discussions work best for cost-efficient decisions at the fire incident.

Proven Models of Collaboration

Work is tougher on fire teams without machinery expertise; tougher as agency timber programs shrink and foresters retire.

We can learn from Canadian successes. The provincial government of Alberta collaborates on fire management with foresters and private companies, including contracted mechanized crew bosses. The provincial government and the Wildland Fire Operations Research Group (WFORG) also work closely with Canada's Forest Engineering Research Institute (FERIC) to assure a quality national fire program.

"Often times, during initial attack, the logging community was first on the scene. They had mobilized themselves and equipment – bulldozers, skidders, and water trucks. Their proximity and knowledge of the ground made them a welcome sight and ally," says Larry Edwards, retired smokejumper and Helena Hot Shot Crew Manager.

With more frequent, large-fire seasons, loggers have proven that mechanized suppression tactics are effective in Appropriate Management Response (AMR). Logger experience and ingenuity in the operations planning tent creates common ground where conflicting agency burn policies have proven unpopular. Both direct and indirect suppression strategies use mechanized crews to reduce forest fuels, and safely halt or steer a running crown fire.

- Fuelbreaks and ladder fuel reductions
- Mulching the understory
- Whole-tree harvesting on firelines
- Temporary bridges for access, fire perimeter monitoring and water delivery

FIRE TASK	MACHINE TYPE	Feller Bunchers & Harvesters	Rubber Tired Skidders & Grapple Cables	Dozer & Tracked Skidders	Soft-Tech/MC	Excavators & Tracked Skid Steer Log Loaders	Forwarders & Super Skidgines	Skidgines (Tracked Rubber-Tired)	Mulchers/Mulchifiers	Road Grader/Motor Pallet
Tree Felling/Snagging		•	•	•	•	•		•	•	
Brush Cutting		•				•			•	
Tree or Log Skidding			•	•	•	•	•	•		
Pruning						•			•	
Log Bunching		•	•	•	•	•		•		
Log Stacking			•	•	•	•	•	•		
Fireline/Fuelbreak Construction		•	•	•	•	•	•	•	•	•
Water Hauling				•			•	•		
Water Use							•	•		
Emergency Vehicle Recovery			•	•	•	•	•	•		•
Site Rehab		•	•	•	•	•	•		•	•
Road Work				•		•	•			•
Night Operations		•	•	•	•	•	•	•	•	•

Machine Types for Fireline Tasks

Best Value

Best Value contracting (a competitive process that allows projects to be awarded to the contractor offering the best combination of price and qualifications, rather than just the lowest bid) is also changing fire management, as more equipment categories are offered. For Wildland-Urban Interface areas (WUIs), and elsewhere, skidgines and pumper cats recently made their way into Best Value contract solicitations. Lowboys and soft-tracks are coming soon. Higher equipment and operator standards should lower overall suppression costs and improve personnel safety.

These documented facts demonstrate cost savings and safety that can be achieved: one dozer or skidgine can clear ground

fuels 10 times faster than one 20-person hand crew; one operator in a steel-caged cab on a feller-buncher, equipped with high-speed disc blade can safely fell 4 times more trees night or day than a 20-person Hot Shot crew during one shift. That's 400 percent greater efficiency for fewer tax-payer dollars. Now there's a growth service industry!

Willing Worker

Many loggers are willing to transport their equipment interstate to stay active. If not stymied by the fire mobilization process (i.e. inspections, agency ordering) and inequalities of Best Value, Severity, and Emergency Equipment Rental Agreements (EERAs), they arrive on time to protect at-risk communities.

There are legitimate partnership issues yet to work out — worker compensation rates, exclusion from fire planning, and adjusting inflation rates, among others. But it's a step toward better "organized chaos."

Fire Contracting Tips

- Contact your geographic region wildfire Coordinating Group (NRCCG, PNWCG, RMCG) for pre-season training and certification.
- Ensure your status is current and correct after meeting all registration requirements.
- Know the various contract and equipment categories before you are dispatched or modify your equipment. Different fire business rules apply for initial and extended attack.
- Market your business and expertise (electronic media business cards and resumes, video, pictures). Describe your safe operator and equipment capabilities by fire task, terrain, and vegetation to agency fire officials.
- Arrive at incidents with approved documents that can be verified quickly.
- Don't dispatch yourself to an incident of choice; it causes conflicts and unnecessary expense.

- Anticipate night operations. Check your wire connections, grounds, and lights.

References

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Behar, Michael. Rendering Inferno, Wired Magazine. October 2004 (references Fire Area Simulator, FARSITE, created by Mark Finney)

<http://www.wired.com/wired/archive/12.10/fire.html>

Bruce Vincent, Environment News, November 1, 2000; The Heartland Institute
<http://www.heartland.org/Article.cfm?artId=9620>

California Dozer Operator Group

<http://www.californiadozeroperatorsgroup.org>

Central Contractor Registration. Start here if you are not yet a government contract vendor
<http://www.ccr.gov>

Eastside Acquisition Team Fire (example sub-region)

http://www.fs.fed.us/r1/helena/contracting/esat_fire_incident.shtml

includes: Incident Processes Frequently Asked Questions (FAQ). Further describes and defines the national business management guidelines

(http://www.fs.fed.us/r1/fire/nrcg/Committees/business_committee.htm) for local contractors, i.e. what you must do if you want to sign up your equipment for fire and other incidents. Links and phone numbers for dates, pre-season signups, training and certification requirements, and payments.

http://www.fs.fed.us/r1/helena/contracting/fire_info.pdf

EaTIS II procurement system

<http://www.fs.fed.us/r1/fire/nrcg/agree-contract/signup.html>

Excavator-mounted attachments; cost comparisons

http://www.slashbuster.com/images/GHR_slashbusting_brochure.pdf

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<http://outreach.cof.orst.edu/resilientfire/finney.htm>

Fire Organization Directory, National and Regional Mobilization contacts. Quick phone number reference

<http://www.nifc.gov/nicc/mobguide/Chapter50.pdf>

Fire Science Lab, Rocky Mountain Research Station, Missoula, Montana

<http://www.firelab.org>

Firewords (Glossary of Fire Science Terms)

<http://www.firewords.net>

Forest Engineering Research and Investigation Center (FERIC)

(<http://fire.feric.ca>)

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<http://www.montanalandtrusts.org/newsandreports/documents/firecommittee.pdf>

National Incident Management Organization (NIMO). Interagency Team to identify strategies to improve incident management.

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National Interagency Coordination Center

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NE Washington Wildfire Training Group

<http://www.newwtg.com>

Nevada Fire Safe Council on Community-wide Fuelbreaks (excerpt)

http://www.nvfsc.org/July_2005_quarterly_annual_report.pdf

Northern Rockies Coordinating Group (NRCG), Contracting for Fire

<http://www.fs.fed.us/r1/fire/nrcg/agree-contract/index.html>

includes current solicitations and agreements, calendar, EaTIS signup, check-in

Procurement Technical Assistance Center (PTAC). Find a Center and Counselor nearest you to help you through the process, and to enter your information.

http://www.ptac-us.org/new/Govt_Contracting/find.php?what=search&State=MT

Risely Equipment, Flex-Trac

<http://www.risleyequipment.com/ex300.html>

Science Daily, follows wildfire reports and studies.

<http://www.sciencedaily.com/articles/w/wildfire.htm>

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